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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,326	12/13/2001	Chongying Xu	ATMI - 515	2946

25559 7590 11/26/2004

ATMI, INC.  
7 COMMERCE DRIVE  
DANBURY, CT 06810

EXAMINER

MANOHARAN, VIRGINIA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/015,326

Applicant(s)

XU ET AL.

Examiner

Virginia Manoharan

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-19 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

Claims 1-7, 9-19 & 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- (a) In claim 1, line 8, the "less than <" is redundant. See also claims 18-19 & 21.
- (b) Reciting claim 12 as -wherein the metal hydrides is calcium hydride-is better so as to avoid the question of double inclusion i.e, the metal hydrides (generic) and calcium hydride (species).
- (c) The preamble of claim 1, for example, recites "...reproducibility of a cycloxilane precursor to a chemical deposition reactor..", however, the body of the claim does not mention said reproducibility.
- (d) The claimed "the at least one impurity" in claims 18-19 lacks antecedent basis when not present, i.e., with the "optionally" recitation in claim 1.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 9-19 & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mc Entee (4,127,598) and Tsukuno et al (5, 31, 947) or Imai et al (4,774,346).

Mc Entee and Tsukuno et al is applied for the same reasons as indicated at page 2 of the Final Office Action.

Tsukuno is further applied for suggesting at col.2, lines 14-16, that "it is sometimes necessary to positively remove water using a dewatering agent such as sodium sulfate..." i.e, water removal in the purification of siloxane. Tsukuno's dewatering treatment would obviously read on treating said cyclosiloxase precursor, by reducing the concentration of water and optionally at least one impurity..." as broadly claimed in claim 1. See also col.1, lines 51-61 of the Imai reference.

[It is suggested that incorporating both claims 2 and 9 into claim 1, would place the case in condition for allowance]

Applicant's arguments filed August 13, 2004 have been fully considered but they are not persuasive.

Applicants' arguments that "in the present case, an important and unobvious aspect of the Applicants' invention resides in the discovery or recognition of the source of the cyclosiloxane premature polymerization problem occurred during a CVD process (i.e., the presence of trace amount of water, basic and/or acidic impurities in the cyclosiloxane precursors, causing the catalytic polymerization thereof)...." are not persuasive of patentability. The basic and /or acidic impurities are not even specified in the independent claim and must not be important to applicants' invention. In fact, it is claimed as an optional matter.

Mc Entee "carbon tetrachloride vinyl chloride," and etc, would fall within the claimed "at least one other impurity as broadly claimed in claim 1 or the acidic impurities as claimed e.g, in claims 2-3.

The desirability of removing water for the purification of siloxanes is suggested by Tsukuno, supra.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Machado et al discloses a CVD process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is (571) 272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

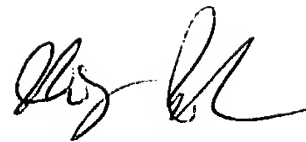
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Manoharan/tgd

November 23, 2004

  
PRIMARY EXAMINER  
ART UNIT 1764  
11/23/04